



**AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF NURSING & MIDWIFERY SCIENCES
END OF SEMESTER DECEMBER 2023 EXAMINATIONS**

BSN 223: IMMUNOLOGY (SUPPLEMENTARY EXAMINATION)

DATE:

Duration: 2 HOURS

Start:

Finish:

INSTRUCTIONS

1. This exam is out of 70 marks
 2. This Examination comprises THREE Sections. Section I: Multiple Choice Questions (20 marks) Section II: Short Answer Questions (30 marks) and Section III: Long Answer Questions (20 marks)
 3. Answer ALL Questions.
 4. Do Not write anything on the question paper -use the back of your booklet for rough work if need be.
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SECTION A. MULTIPLE CHOICE QUESTIONS (MCQs)-20 MARKS

1. B and T cells are produced by stem cells that are formed in:
 - A. Bone marrow
 - B. The liver
 - C. The spleen
 - D. The lymph nodes

2. The inability to distinguish between self-cells and non-self-cells may lead to: -
 - A. Hypersensitivity
 - B. Auto-immune diseases
 - C. Immunodeficiency
 - D. Tolerance

3. Immunologic unresponsiveness to self-antigens is called: -
 - A. Tolerance
 - B. Tolerogen
 - C. Memory
 - D. Acquired immunity

4. The following is a correct statement for IgG Antibodies
 - A. IgG Antibodies are the only Antibodies that are able to cross the placenta barrier
 - B. IgG are antibodies involved with allergic reactions
 - C. They are the Antibodies that are raised up during parasitic infections
 - D. IgG is a pentamer

5. The following is a true definition of cytokines: -
- A. Cytokines are proteins that mediate the effector function of the immune system.
 - B. Cytokines are cells of the immune system
 - C. Cytokines are not involved in human infections
 - D. Cytokines do not bind to receptors on the plasma membrane and elicit their effects through the activation of an intracellular signaling cascade
6. The following is a non-organ specific (systemic) disease: -
- A. Myasthenia
 - B. Systemic lupus erythematosus (SLE)
 - C. Hashimoto's thyroiditis
 - D. Pernicious anemia
7. Di George syndrome results from defect in;
- A. Purine nucleoside phosphorylase
 - B. Thymic development
 - C. DNA repair
 - D. CD3
8. HIV attacks: -
- A. T helper cells
 - B. T cytotoxic cells
 - C. B cells
 - D. Macrophages

9. A Major factor regulating the adaptive immune response is:

- A. The Neutrophil
- B. Complement membrane attack complex
- C. C-Reactive protein
- D. Antigen concentration

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11. The function of memory B cell is: -

- A. Antibody production
- B. Immunologic memory
- C. Regulated antibody production
- D. None of these

12. The specificity of an antibody is due to:-

- A. Its valence
- B. The heavy chains
- C. The Fc portion of the molecule
- D. The variable portion of the heavy and light chain

13 The following convey the longest-lasting immunity to an infectious agent: -

- A. Naturally acquired passive immunity
- B. Artificially acquired passive immunity
- C. Naturally acquired active immunity
- D. All of these

14. Injection of anti-venom against snake bite is an example of: -

- A. Active immunity
- B. Passive immunity
- C. Non-specific immunity
- D. Phagocytic immunity

15 The following Antibodies are present in body secretions: -

- A. IgG
- B. IgA
- C. Ig M
- D. IgE

16. The ability of the immune system to recognize self-antigens versus non-self-antigen is an example of:

- A. Specific immunity
- B. Tolerance
- C. Cell-mediated immunity
- D. Antigenic immunity

17. The type of hypersensitivity that cannot be transferred with serum antibody?

- A. Type I
- B. Type II
- C. Type III
- D. Type IV

18. The membrane attack complex consists of: -

- A. Properdin
- B. C5b,6,7,8,9
- C. C3b, Bb
- D. Colicins

19. Rhesus hemolytic disease of the newborn involves: -

- A. IgE
- B. Antibody to cell surfaces
- C. Soluble immune complexes
- D. Cytokine release from T-Cells

20. The basic Immunoglobulin unit is composed of: -

- A. 2 identical heavy and 2 different light chains
- B. 2 different heavy and 2 identical light chains
- C. 2 identical heavy and 2 identical light chains
- D. 2 different heavy and 2 different light chains

SECTION B. SHORT ANSWER QUESTIONS- (30 MARKS)

1. Autoimmune diseases are classified into TWO classes. Mention the classes and for each give an example (6 Marks)
2. State any SIX determinants of Antigenicity (6 Marks)
3. State SIX (6) functions of the Bone Marrow (6 Marks)
4. Outline the function of the following immune cells (6 Marks)
 - (i) T-suppressor cells
 - (ii) T-cytotoxic cells
 - (iii) T-contrasuppressor cells
5. State the functions of the Complement system (6 Marks)

SECTION C. LONG ANSWER QUESTIONS- (20 MARKS)

1. Discuss briefly the FOUR classification of Hypersensitivity reactions (10 marks)
3. Discuss briefly any FIVE ways through which Antibodies help the body against foreign pathogens (10 marks)